

WHAT IS CLAIMED IS:

1. A method of calculating correction data for correcting display characteristic, comprising the steps of:

displaying a test pattern on an image display device based on test pattern data;

obtaining capture data by capturing the test pattern;

and

calculating correction data for correcting a display characteristic of the image display device based on the obtained capture data,

wherein, when the obtained capture data does not normally constitute an entire image relating to the test pattern data, correction data relating to an entire image relating to the test pattern data including correction data of an area to be complemented is calculated by setting the area to be complemented so as to include the not-normally-constituting area and complementing the area to be complemented based on the area excluding the area to be complemented.

2. The method of calculating correction data for correcting display characteristic according to Claim 1, wherein the test pattern data is generated before the test pattern is displayed on the image display device.

3. The method of calculating correction data for

correcting display characteristic according to Claim 1, wherein the display characteristic includes at least one of a geometric characteristic, a color characteristic, a luminance characteristic, a white balance characteristic and a gamma characteristic.

4. The method of calculating correction data for correcting display characteristic according to Claim 2, wherein the display characteristic includes at least one of a geometric characteristic, a color characteristic, a luminance characteristic, a white balance characteristic and a gamma characteristic.

5. The method of calculating correction data for correcting display characteristic according to Claim 1,

wherein the calculation of correction data of the area to be complemented is performed by:

obtaining capture data relating to the entire image relating to the test pattern data by complementing capture data of the area to be complemented based on capture data of the area excluding the area to be complemented; and

calculating correction data relating to the entire image relating to the test pattern data based on the obtained capture data.

6. The method of calculating correction data for correcting display characteristic according to Claim 2,

wherein the calculation of correction data of the area

to be complemented is performed by:

obtaining capture data relating to the entire image relating to the test pattern data by complementing capture data of the area to be complemented based on capture data of the area excluding the area to be complemented; and

calculating correction data relating to the entire image relating to the test pattern data based on the obtained capture data.

7. The method of calculating correction data for correcting display characteristic according to Claim 1,

wherein the calculation of correction data of the area to be complemented is performed by:

calculating correction data of the area excluding the area to be complemented based on the capture data of the area excluding the area to be complemented; and

complementing correction data of the area to be complemented based on the calculated correction data of the area excluding the area to be complemented.

8. The method of calculating correction data for correcting display characteristic according to Claim 2,

wherein the calculation of correction data of the area to be complemented is performed by:

calculating correction data of the area excluding the area to be complemented based on the capture data of the area excluding the area to be complemented; and

complementing correction data of the area to be complemented based on the calculated correction data of the area excluding the area to be complemented.

9. The method of calculating correction data for correcting display characteristic according to Claim 1, wherein the calculation of correction data of the area to be complemented is performed by:

calculating correction data of the entire area of the image relating to the capture data based on the capture data; and

complementing correction data of the area to be complemented based on the correction data of the area excluding the area to be complemented in the calculated correction data.

10. The method of calculating correction data for correcting display characteristic according to Claim 2, wherein the calculation of correction data of the area to be complemented is performed by:

calculating correction data of the entire area of the image relating to the capture data based on the capture data; and

complementing correction data of the area to be complemented based on the correction data of the area excluding the area to be complemented in the calculated correction data.

11. The method of calculating correction data for correcting display characteristic according to Claim 1, wherein an image relating to the capture data is displayed before the area to be complemented is set; and the area to be complemented is set in accordance with a manual operation for the displayed image.

12. The method of calculating correction data for correcting display characteristic according to Claim 2, wherein an image relating to the capture data is displayed before the area to be complemented is set; and the area to be complemented is set in accordance with a manual operation for the displayed image.

13. The method of calculating correction data for correcting display characteristic according to Claim 1, wherein, based on a result of recognition of an area that does not normally constitute the image relating to the test pattern data, the recognition being made by analyzing the capture data, the area to be complemented is automatically set so as to include the recognized area.

14. The method of calculating correction data for correcting display characteristic according to Claim 2, wherein, based on a result of recognition of an area that does not normally constitute the image relating to the test pattern data, the recognition being made by analyzing the capture data, the area to be complemented is automatically

set so as to include the recognized area.

15. The method of calculating correction data for correcting display characteristic according to Claim 13, wherein the analysis of capture data is performed by comparing multiple capture data corresponding to multiple test pattern data.

16. The method of calculating correction data for correcting display characteristic according to Claim 14, wherein the analysis of capture data is performed by comparing multiple capture data corresponding to multiple test pattern data.

17. The method of calculating correction data for correcting display characteristic according to Claim 9, wherein, the area to be complemented is automatically set so as to constitute the recognized area based on a result of recognition of an area that does not normally constitute the image relating to the test pattern data, the recognition being made by analyzing correction data of the entire area of the image relating to the capture data.

18. The method of calculating correction data for correcting display characteristic according to Claim 10, wherein, the area to be complemented is automatically set so as to constitute the recognized area based on a result of recognition of an area that does not normally constitute the image relating to the test pattern data, the recognition

being made by analyzing correction data of the entire area of the image relating to the capture data.

19. The method of calculating correction data for correcting display characteristic according to Claim 17, wherein the analysis of capture data is performed by comparing correction data of the entire area of the images relating to multiple capture data corresponding to multiple test pattern data.

20. The method of calculating correction data for correcting display characteristic according to Claim 18, wherein the analysis of capture data is performed by comparing correction data of the entire area of the images relating to multiple capture data corresponding to multiple test pattern data.

21. The method of calculating correction data for correcting display characteristic according to Claim 1, wherein an obstacle is detected by using an obstacle detecting device before the area to be complemented is set; and

the area to be complemented is automatically set so as to constitute the area based on a result of recognition of an image area corresponding to the detected obstacle as an area that does not normally constitute the image relating to the test pattern data.

22. The method of calculating correction data for

correcting display characteristic according to Claim 2,  
wherein an obstacle is detected by using an obstacle  
detecting device before the area to be complemented is set;  
and

the area to be complemented is automatically set so as  
to constitute the area based on a result of recognition of  
an image area corresponding to the detected obstacle as an  
area that does not normally constitute the image relating to  
the test pattern data.

23. The method of calculating correction data for  
correcting display characteristic according to Claim 1,  
wherein data of the area to be complemented is complemented  
by copying data of the area excluding the area to be  
complemented thereto.

24. The method of calculating correction data for  
correcting display characteristic according to Claim 1,  
wherein the complementing of the data of the area to be  
complemented is calculated from the data of the area  
excluding the area to be complemented based on a  
predetermined correlation.

25. The method of calculating correction data for  
correcting display characteristic according to Claim 24,  
wherein the predetermined correlation is a distance between  
the position of a part to be complemented in the area to be  
complemented and the position at which complementing data



exists in the area excluding the area to be complemented.

26. The method of calculating correction data for correcting display characteristic according to Claim 1, wherein the image display device is a projection device including a projector for projecting an image and a screen for displaying the image projected by the projector.

27. The method of calculating correction data for correcting display characteristic according to Claim 1, wherein the image display device is a multi-projection device having multiple projectors each for projecting a partial image and a screen for displaying images projected by the multiple projectors and constructing one image as a whole by arranging partial images projected by the projectors on the screen in such a manner that the images are superimposed one over another at the edges of adjacent partial images.

28. A program for calculating correction data for correcting display characteristic, causing a computer to:

display, based on test pattern data, a test pattern on an image display device;

obtain capture data by capturing the test pattern; and

calculate, based on the obtained capture data, correction data for correcting a display characteristic of the image display device,

wherein, when the obtained capture data does not

normally constitute an entire image relating to the test pattern data, correction data relating to an entire image relating to the test pattern data including correction data of an area to be complemented is calculated by setting the area to be complemented so as to include the not-normally-constituting area and complementing the area to be complemented based on the area excluding the area to be complemented.

29. An apparatus for calculating correction data for correcting display characteristic, the apparatus comprising:

a capturing device for capturing a test pattern displayed on an image display device based on test pattern data and obtaining capture data; and

a calculating device for calculating, based on the obtained capture data, correction data for correcting a display characteristic of the image display device,

wherein, when the obtained capture data does not normally constitute an entire image relating to the test pattern data, correction data relating to an entire image relating to the test pattern data including correction data of an area to be complemented is calculated by setting the area to be complemented so as to include the not-normally-constituting area and complementing the area to be complemented based on the area excluding the area to be complemented.